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Hidden Risk: Suicide-related Behaviour among Community-Residing Older Adults Receiving Home Care Services in Ontario, Canada

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Section 1

BACKGROUND & CONTEXT

Significance of the Topic

- Ontario home care sector supporting 359,000 older adults (65 yrs+) in their homes (2014/15)
  - Demand is expected to increase with population aging
- Older adults have higher rates of death by suicide than other age groups in most countries worldwide

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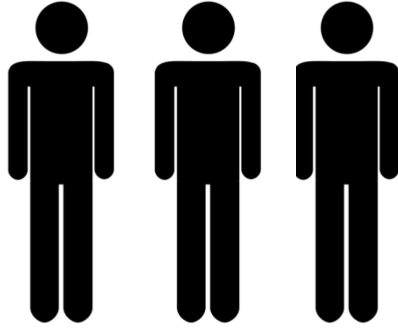
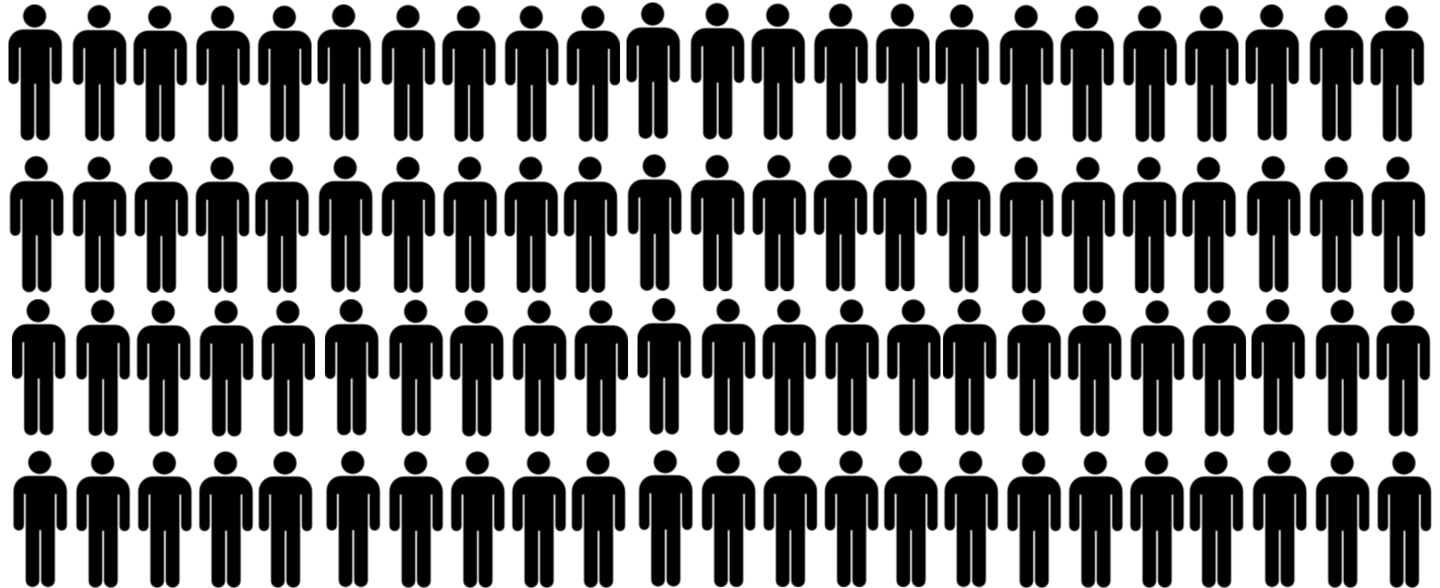
Suicide Deaths:Attempts Ratio



1:3
Older Adults (65+)



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1:200 General Population

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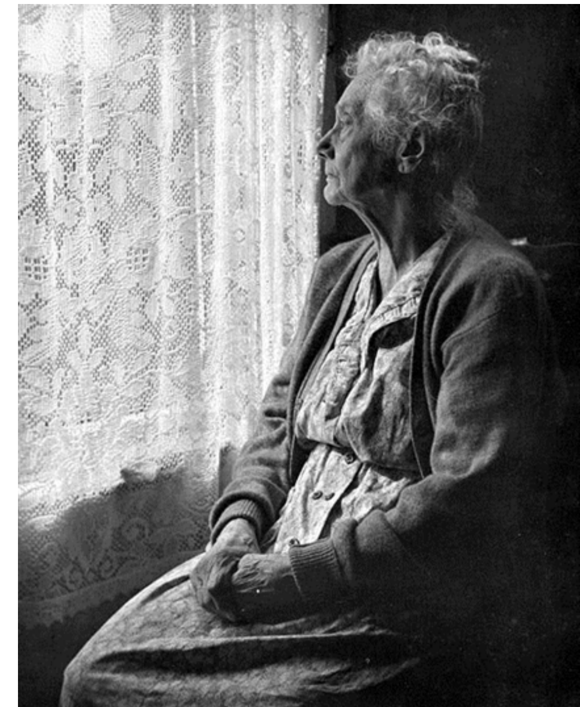
Why is it "Hidden Risk"?

- "Hidden" from view of traditional mental health promotion programs
- Psychiatric disorders are rarely the admission diagnosis leading to home care services
  - Yet, mental illness among older adults receiving home care services increasing



Bruce & McNamara, 1992; Martens et al., 2007; Qiu et al., 2010;

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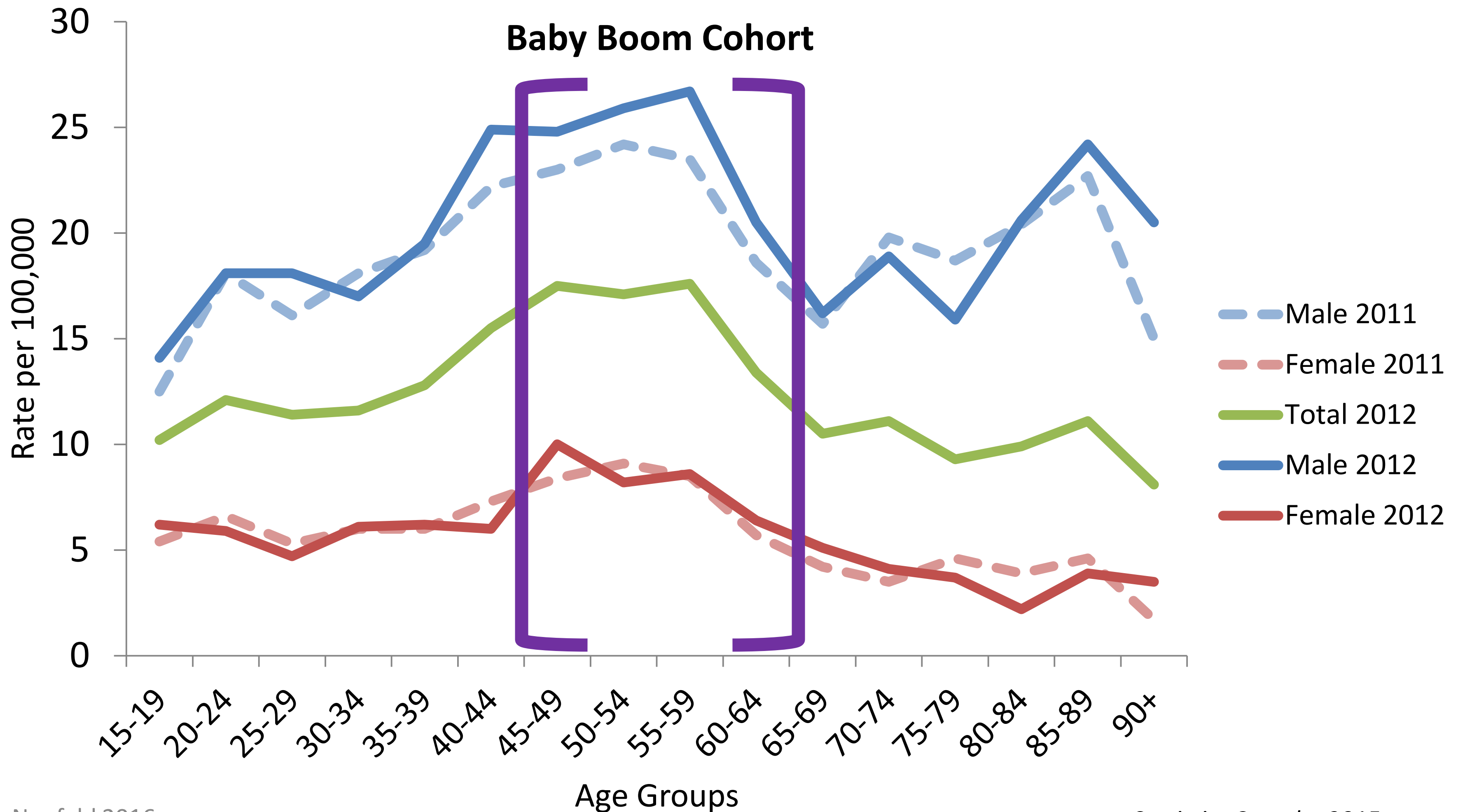
Suicide Rate by Sex, Age Group, Canada, 2011-2012



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Statistics Canada, 2015

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Putting it All Together

- Baby boomers are moving toward older, late-adulthood
  - A period of life that has traditionally been associated with the highest suicide rates
- Demand on home care services is expected to increase with population aging
  - Mental health promotion strategies in the home care sector will become as critical as managing chronic diseases and impairments

Section 2

DATA & ANALYSIS

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Datasets

Home Care Reporting System (HCRS) 2001-2014

Ontario Only RAI-HC 2007-2010

National Ambulatory Care Reporting System (NACRS)
ED Visit Records

Discharge Abstract Database (DAD)
Hospital Discharge Records

Ontario Mental Health Reporting System (OMHRS)
Psychiatric Mental Health Records

Criteria

- Long-stay HC clients aged 60+
- Removed multiple assessments per person
- No limiters on cognitive performance

N=222,149

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Variables Measuring Mental Health in the RAI-HC

- Depression Rating Scale
- Cognitive Performance Scale
- Anhedonia
- Social Decline & Distress
- Pain
- Intentional Self-Harm (ISH)
  - Suicide Attempts
- Any Psychiatric Diagnosis
- Alcohol Use & Dependence
- Antidepressant Use
- Isolation
- Loneliness
- Positive Social Relationships

Performed tests of association and unadjusted/adjusted predictive models that show risk factors for intentional self-harm and protective factors that buffer this risk.

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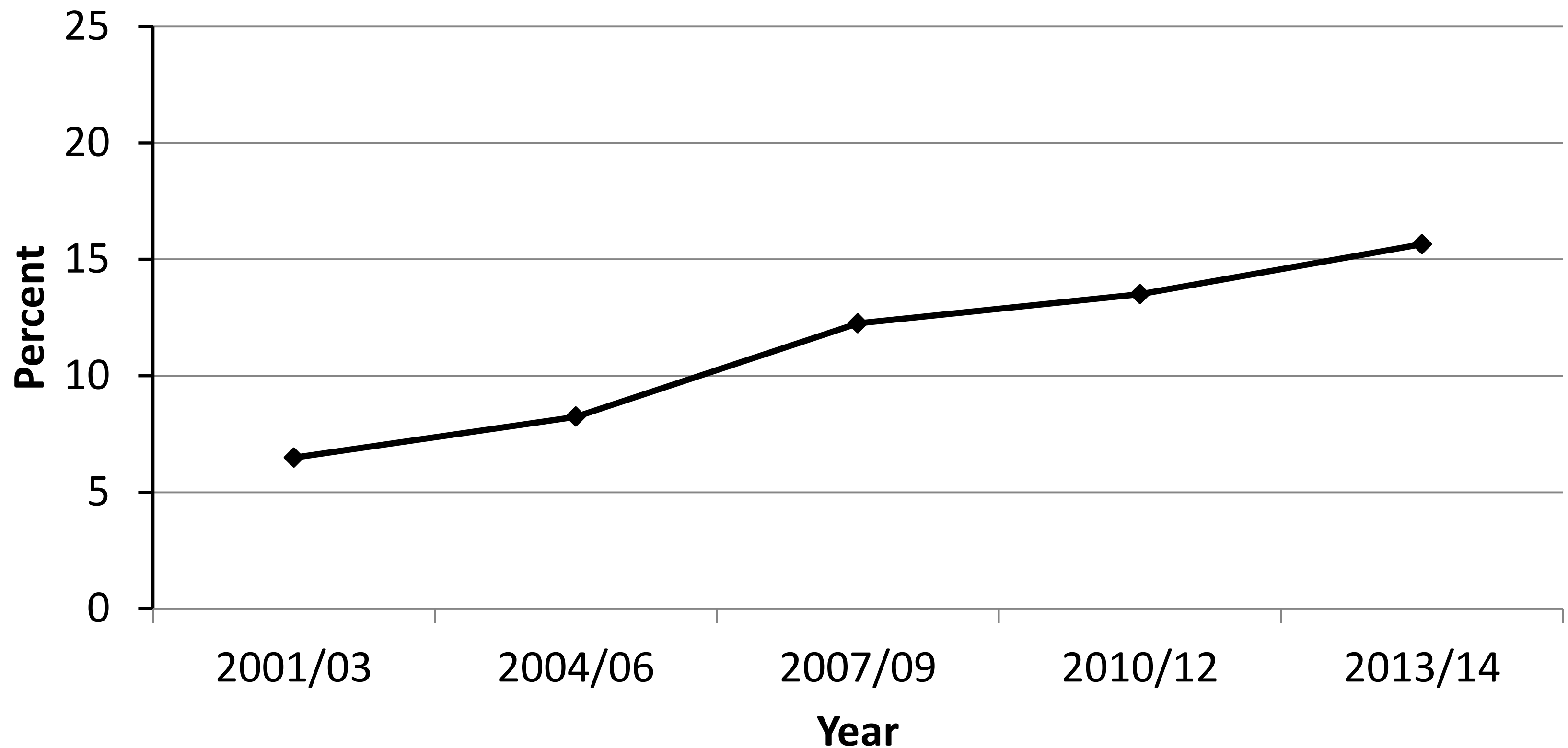
Section 3

KEY FINDINGS

Proportion of Home Care Clients with any Psychiatric Diagnosis, HCRS, 2001-2014



Prevalence of Intentional Self-Harm (2007/10)

- 1.01% (*n*=2,077)
- 9.3 cases per 1,000 older adults in Ontario home care

		Rate (n) of ISH	95% CI
Age Group	60-74 years	1.89 (943)	1.8-2.0
	75-84 years	0.93 (800)	0.9-1.0
	85+ years	0.48 (334)	0.4-0.5
Sex	Male	1.14 (835)	1.1-1.2
	Female	0.95 (1,242)	0.9-1.0
Postal Code	Urban	0.99 (1,728)	0.9-1.0
	Rural	1.18 (331)	1.1-1.3

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Note: *ISH=Intentional Self-Harm*

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Mean Scores on RAI-HC Outcome Scales, by ISH, 2007-2010

	ISH Sample N=2,077		Non-ISH Sample N=202,720	
	Mean (± SD)	95% CI	Mean (± SD)	95% CI
Depression Rating Scale***	1.84 (2.53)	1.73-1.95	0.95 (1.77)	0.94-0.96
ADL Hierarchy Scale***	0.54 (1.03)	0.50-0.59	0.66 (1.21)	0.67-0.68
IADL Capacity Scale***	3.69 (1.73)	3.61-3.76	3.75 (1.75)	3.75-3.76
Cognitive Performance Scale***	1.25 (1.25)	1.19-1.30	1.00 (1.23)	1.00-1.01
CHESS Scale***	1.17 (1.02)	1.13-1.21	1.21 (1.05)	1.21-1.22

*Note: ***p<.0001*

ISH=Intentional Self-Harm, ADL=Activities of Daily Living, IADL=Instrumental Activities of Daily Living, CHESS=Changes in Health, End-stage disease and Signs and Symptoms

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How Can We Better Identify Older Adults At Risk of Intentional Self-harm?

Independent variables	Model 1[†] Adjusted odds ratio (95% CI)	Model 2[‡] Adjusted odds ratio (95% CI)
Sociodemographic		
Aged 60–74 years[§]	3.14 (2.75–3.59)***	2.95 (2.57–3.39)***
Aged 75–84 years[§]	1.67 (1.46–1.91)***	1.61 (1.41–1.82)***
Sex (male)	1.27 (1.11–1.46)**	1.13 (0.91–1.40)
Married[¶]	1.00 (0.89–1.12)	—
Widowed[††]	—	0.79 (0.70–0.88)**
Risk factors		
Any psychiatric diagnosis	2.29 (2.06–2.54)***	2.31 (2.08–2.57)***
Alcohol use and dependence	1.69 (1.34–2.14)***	1.76 (1.39–2.22)***
Psychotropic medication	1.94 (1.75–2.15)***	1.94 (1.75–2.15)***
DRS score[‡‡] 1–2	1.31 (1.18–1.46)***	1.30 (1.17–1.45)***
DRS score[‡‡] 3+	1.58 (1.40–1.78)***	1.57 (1.39–1.76)***
ADL Hierarchy Scale score[§§] 1–2	0.72 (0.64–0.81)***	0.71 (0.63–0.79)***
ADL Hierarchy Scale score[§§] 3+	0.51 (0.42–0.62)***	0.50 (0.41–0.60)***
Daily pain	1.14 (1.04–1.25)*	1.14 (1.04–1.25)*
Cognitive Performance Scale	1.32 (1.20–1.46)***	1.32 (1.12–1.46)***
Cognitive Performance Scale^2	0.97 (0.95–0.99)*	0.97 (0.95–0.99)*
Dementia diagnosis	0.91 (0.77–1.09)	0.92 (0.77–1.10)
Protective factors		
Positive social relationships	0.77 (0.69–0.86)***	0.85 (0.73–0.99)*
Interaction effects		
Sex * married	0.75 (0.62–0.91)*	—
Sex * dementia diagnosis	1.88 (1.51–2.33)***	1.75 (1.41–2.17)***
Sex * widowed	—	1.46 (1.18–1.81)**
Sex * positive social relationships	—	0.79 (0.64–0.99)*

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Selected Risk & Protective Factors

		Adj. OR	95% CI
Risk	60-74 yrs	3.14	2.8-3.6
	Psychiatric Diagnosis	2.29	2.1-2.5
	Alcohol Use/Depend	1.69	1.3-2.1
Protective	+ Social Relationships	0.77	0.7-0.9
Interactions	Sex*Married	0.75	0.6-0.9
	Sex*Widowed	1.46	1.2-1.8
	Sex*Dementia	1.88	1.5-2.3
	Sex* + Social Relationships	0.79	0.6-0.9

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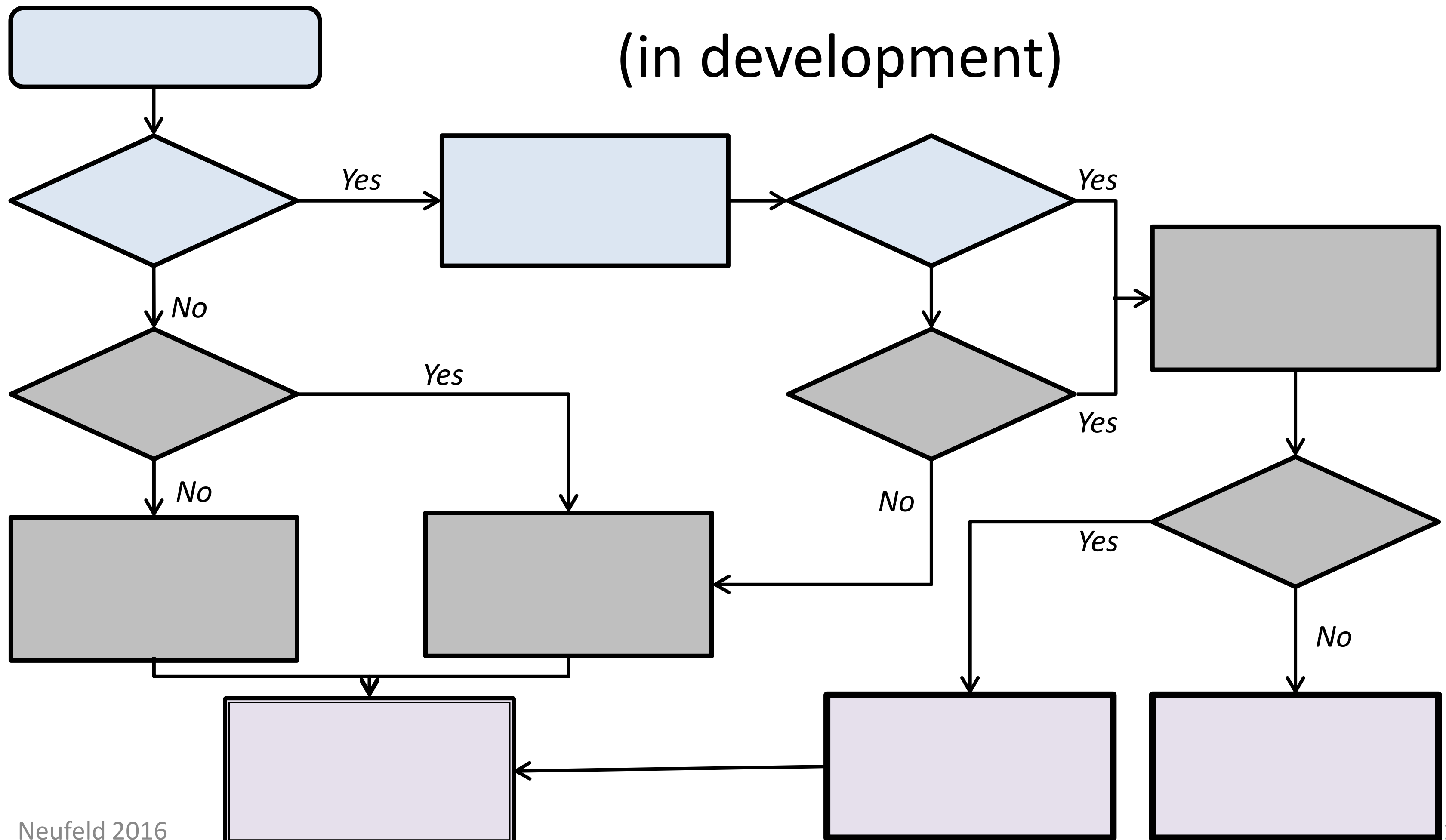
Suicide Risk Assessment Algorithm for RAI-HC

(in development)



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Section 4

IMPLICATIONS & CONCLUSIONS

Key Messages for Practice/Policy

- RAI-HC of value for *early* identification of older adults potentially at risk for mental health crises
  - Using evidence for preventative assessment
  - Risk assessment algorithm to flag older adults
- Evidence for health leadership to ensure Ontario home care providers have the resources and capacity for mental health promotion
  - Mental health strategy to enhance patient care

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